



Procedure: C-A-OCF-523/8-CWS  
Revision: 04  
Revision Date: 03/15/04

## COLLIDER-ACCELERATOR DEPARTMENT

Title: Operational Control Form For RHIC Cooling Water Systems

Prepared by: M. Van Essendelft

Group: ESH&Q

### Approvals

\_\_\_\_\_  
*Signature on File* Date: \_\_\_\_\_

ESH&Q Division Head

\_\_\_\_\_  
*Signature on File* Date: \_\_\_\_\_

Collider-Accelerator Department Chairman

(Indicate additional signatures)

Y N  
☐ x FS Representative: \_\_\_\_\_ Date: \_\_\_\_\_

☐ x Radiological Control Coordinator: \_\_\_\_\_ Date: \_\_\_\_\_

☐ x Chief ME: \_\_\_\_\_ Date: \_\_\_\_\_

☐ x Chief EE: \_\_\_\_\_ Date: \_\_\_\_\_

x ☐ Environmental/P2 Coordinator: *Signature on File* Date: \_\_\_\_\_

☐ x QA Manager: \_\_\_\_\_ Date: \_\_\_\_\_

☐ x Other: \_\_\_\_\_ Date: \_\_\_\_\_

# BNL ENVIRONMENTAL MANAGEMENT SYSTEM OPERATIONAL CONTROLS FORM

<b>OPERATIONAL CONTROL FOR SIGNIFICANT ENVIRONMENTAL ASPECTS:</b> <hr style="border: 0; border-top: 1px solid black; margin-top: 5px;"/>	<b>COMPLETED BY:</b> <u>M. VAN ESSENDELFT</u> <b>DATE:</b> <u>MARCH 15, 2004</u>
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<b>1. Operation(s):</b> RHIC Cooling Water Systems (RHIC-523+528-CWS)
<b>2. Activity(ies):</b> <ul style="list-style-type: none"> <li>• Cross connection control for water make-up</li> <li>• Chemical storage</li> <li>• Chemical transfer/transport</li> <li>• Chemical dispensing</li> <li>• Waste resin storage</li> <li>• Waste resin disposal</li> <li>• Waste characterization</li> <li>• Cooling system blow-down to recharge basin</li> <li>• Cooling system maintenance</li> <li>• Water consumption</li> <li>• Radioactive waste generation</li> <li>• Radioactive atmospheric discharges</li> </ul>
<b>3. Operational Controls (technological, operational, procedural operating criteria):</b> <ul style="list-style-type: none"> <li>• Secondary containment</li> <li>• Hi/low level detection systems</li> <li>• Leak detection systems</li> <li>• Weekly system monitoring by Drew Industrial Division of Ashland Chemical</li> <li>• Monthly effluent monitoring/reporting</li> <li>• Inspections of chemical storage/feed systems</li> <li>• Tier I program and self-evaluations</li> <li>• Chemical Management System ( For chemicals other than water treatment)</li> <li>• The following operational procedures:               <ul style="list-style-type: none"> <li><a href="#">C-A OPM 2.19</a>, Operator Response to "Make-up" Alarms</li> <li><a href="#">C-A OPMs 8.16.1 through 8.16.8</a>, LINAC Cooling Water System OPMs</li> <li><a href="#">C-A OPM 8.20</a>, Handling and Disposing of Hazardous Waste</li> <li><a href="#">C-A OPM 8.20.2</a>, Radioactive Waste Disposal</li> <li><a href="#">C-A OPM 8.22</a>, Handling and Disposal of Non-Hazardous and Recyclable Solid Waste</li> <li><a href="#">C-A OPM 8.20.1</a>, C-A Hazardous Waste Collection Station</li> <li><a href="#">C-A OPM 8.18.1</a>, General Water Treatment</li> <li><a href="#">C-A OPM 8.18.1.a</a>, Water Treatment Services Agreement with Drew Industrial Division of Ashland Chemical</li> <li><a href="#">C-A OPM 8.18.4</a>, RHIC Deionizer Handling Procedure</li> </ul> </li> </ul>

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<p> <a href="#">C-A OPM 8.18.5</a>, C-A Deionizer Resin Exchange Procedure  <a href="#">C-A OPM 8.31.c</a>, Deionizer Maintenance  <a href="#">C-A OPM 8.31.e</a>, Draining and Filling Systems Checklist  <a href="#">C-A OPM 8.31.f</a>, Water Transfer Checklist  <a href="#">C-A OPM 10.2</a>, Response To Tritiated Water Spills  <a href="#">C-A OPM 10.1.d</a>, Operator Response to C-A Water Spills  <a href="#">C-A OPM 2.28</a>, C-A Procedure for Work Planning and Control for Operations  <a href="#">C-A OPM 1.14</a>, General requirements For Liquid and Outdoor Storage         </p>	
<p><b>4. Maintenance Plan(s):</b></p> <ul style="list-style-type: none"> <li>PE annual cross-connection control plan (PE Maint. Mgmt. Center database)</li> <li>C-A Water Systems Group inspection of chemical storage systems</li> <li>Weekly analysis of cooling water specified in Drew Industrial contract</li> <li>PE maintenance of chemical feed systems</li> </ul>	
<p><b>5. Actions to be Taken if Controls Fail:</b></p> <ul style="list-style-type: none"> <li>See <a href="#">C-A OPM 3.0</a>, Local Emergency Plan for the C-A Department</li> <li>Call spill response hotline – X2222</li> <li>Adjust water chemical levels if found to be outside limits.</li> </ul>	
<p><b>6. Records:</b></p> <ul style="list-style-type: none"> <li>Tier I Inspection records / Tracking Database</li> <li>Operational Control Form</li> <li>Process Assessment Form / Corrective Action, P2 Measures, and Assessment, Prevention &amp; Control Initiatives Tracking Database</li> <li>C-A Family ATS documentation on completion of Environmental Management Program, Section 10 Tasks</li> <li>ORPS report (for qualifying liquid spills only)</li> <li>Weekly analytical results on cooling system water (Drew),</li> <li>Monthly SPDES sampling and DMR (EWMSD)</li> <li>Chemical distribution system maintenance records (PE)</li> <li>C-A Water Systems Status of Equipment Log</li> <li>Satellite Area inspections</li> <li>Tank inspection records</li> </ul>	

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<b>7. Responsibilities:</b> [(a) to ensure controls are in place; (b) to ensure controls keep working; (c) to take action when controls fail; (d) to create and keep records relative to operational controls]	
<b>Name</b>	<b>Responsibility</b>
C-A Water Systems Technical Supervisor	Daily inspections of chemical storage systems Testing of hi/low level systems Testing leak detection systems Adjust chemical concentrations if limits exceeded Monthly inspection of storage tanks
EWMSD	Recharge basin monitoring
EWMSD Radioactive Air Emissions Subject Matter Expert	Submit annual NESHAPs report to EPA
EWMSD Liquid Effluent Subject Matter Expert	Review liquid discharges for release authorization
PE	Annual Cross Connection Control testing / maint. Maintenance of chemical feed systems
Drew	Weekly water analysis, chemical control recommendations, recommendations for chemical feed station upgrades, evaluation of corrosion control results.
Tier I Inspection Committee	Tier I Documentation
C-A Waste Management Representative	Inspect Satellite Areas, interface with C-A Environmental Coordinator to process C-A waste for characterization and pick-up
C-A Environmental Compliance Representative	Submit liquid effluent evaluations to appropriate Subject Matter Expert for new or modified effluents

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8. Training:		
Name	Training	Date
C-A Water Systems Technical Supervisor	Haz. Waste Generator Rad. Waste Generator	N/A
Drew Industrial techs	Contractor vendor orientation	N/A
Building Staff	See the <a href="#">EMS Training package</a> for this operation	N/A